Claims:

1. A method of sealing a fluid sample collection device, comprising:

loading a fluid sample collection device with a fluid sample, said device comprising a housing having at least one substantially planar surface that includes an orifice in fluid communication with an internal fluid sample holding chamber which terminates at an internal capillary stop; and

slidably moving a sealing element over at least a portion of said substantially planar surface in a way that displaces any excess fluid sample away from the orifice, seals the fluid sample within said holding chamber, and inhibits the fluid sample from prematurely breaking through the internal capillary stop.

2. The method of claim 1, wherein the sealing element includes a locking feature, wherein the locking feature engages after the sealing element covers the orifice, and wherein the engaging element secures the sealing element to the housing in an air-tight manner in the region surrounding the orifice.

3. The method of claim 1, wherein said housing includes an overflow chamber that receives excess fluid sample displaced from the orifice by the sealing element.

4. The method of claim 1, wherein the device is a blood sample collection device and the fluid sample is a blood sample.

5. A fluid sample collection device, comprising:

a housing comprising at least one substantially planar surface and at least one sealing element,

wherein said substantially planar surface has an orifice that is in fluid communication with an internal fluid sample holding chamber

which terminates at an internal capillary stop, and

wherein said sealing element is slidably movable over at least a portion of the substantially planar surface in a way that displaces any excess fluid sample away from the orifice, seals the fluid sample within the holding chamber, and inhibits the fluid sample from prematurely breaking through the capillary stop.

6. The device of claim 5, which is a blood sample collection device and the fluid sample comprises a blood sample.

7. The device of claim 5, wherein the sealing device is made of a plastic selected from the group consisting of polyesters, ABS and acetals.

8. The device of claim 5, wherein the sealing element has a locking feature that engages once the sealing element covers said orifice, where said engagement abuts the sealing element to said housing in an air-tight manner in the region surrounding the orifice.

9. The device of claim 6, wherein the housing includes an overflow chamber to receive blood displaced from the orifice.

10. The device of claim 6, wherein the overflow chamber is hollow or includes a blood-absorbing pad.

11. The device of claim 6, wherein a fixed volume of sample is retained in said holding chamber in the range 1 uL to 1 mL and preferably 5-50 uL.

12. The device of claim 11, wherein the volume of sample is 5-50 uL.

13. The device of claim 5, wherein the orifice is circular or oval.

14. The device of claim 5, wherein the orifice is at the proximal end of the holding chamber and the capillary stop is at the distal end, and where the internal conduit is connected to a capillary stop.

15. The device of claim 13, wherein the diameter of the circular orifice is in the range 1-2 mm or the perimeter of the oval is 1-15 mm.

16. The device of claim 5, wherein the region around the orifice is hydrophobic or hydrophilic.

17. The device of claim 5, wherein the region around the orifice is an adhesive capable of forming an airtight seal with said sealing means.

18. The device of claim 5, wherein the sealing means locks into a sealed position when a tooth on the sealing means enters a slot on said housing.

19. The device of claim 5, wherein said housing comprises a groove for directing the motion of said sealing element in the plane of said orifice.

20. The device of claim 19, wherein said sealing element comprises a first facet and a second facet, where said first facet provides a sealing surface and said second facet moves in said groove.

21. The device of claim 20, where in moving from an initial

position to a sealed position, the second facet flexes to provide a force to the first facet to seal the orifice.

22. The device of claim 5, wherein the collection device has sensing elements for assaying a component of the sample conduit.

23. The device of claim 5, which incorporates an immunosensor in an internal conduit for assaying a component of the sample.

24. The device of claim 5, wherein the collection device incorporates an electrochemical sensor in an internal conduit for assaying a component of the sample.

25 A sealing element of a fluid sample collection device, comprising:

a proximal end; and

a distal end,

wherein the proximal end comprises at least one anterior prong and at least one posterior prong, wherein said prongs are separated by a gap that permits a slidable movement of the sealing element about the fluid sample collection device,

the fluid sample collection device includes at least one substantially planar surface such that (i) said anterior prong slides across at least a portion of said substantially planar surface, and (ii) said posterior prong slides under at least a portion of a face of the fluid sample collection device opposite said substantially planar surface,

wherein said substantially planar surface has an orifice that is in fluid communication with an internal fluid sample holding chamber the sliding movement of the sealing element seals the orifice.

26. The sealing element of claim 25, that includes a locking feature which engages once the sealing element seals the orifice, wherein the engagement abuts the sealing element in an air-tight manner to a housing in the region surrounding the orifice.

27. The sealing element of claim 25, wherein the housing includes an overflow chamber for receiving excess fluid sample displaced from the orifice by action of the sealing element.

28. The sealing element of claim 25, wherein the fluid sample collection device is a blood sample collection device, the fluid sample comprises a blood sample, and the orifice receives a blood sample.

29. A sealing element of a fluid sample collection device, comprising: a proximal end and a distal end, the proximal end comprising at least one anterior prong and at least one posterior prong, the prongs being separated by a gap that permits the slidable movement of the sealing element about the inlet of a fluid sample collection device having at least one substantially planar surface, wherein

(i) said anterior prong slides over and across at least a portion of said substantially planar surface, and (ii) said posterior prong slides under at least a portion of a face of said device opposite said substantially planar surface.

30. The sealing element of claim 29, wherein said anterior prong has a greater thickness than said posterior prong in a longitudinal cross section of said sealing element

31. The sealing element of claim 30, wherein said anterior prong includes a dome-like shape and said posterior prong includes a substantially

planar shape in a longitudinal cross section of said sealing element.

32. The sealing element of claim 30, wherein the gap separating the prongs runs approximately half the length of said sealing element.

33. The sealing element of claim 30, wherein the anterior prong remains substantially rigid as it slides over and across a portion of said substantially planar surface.

34. The sealing element of claim 30, wherein said posterior prong may flex as it slides under a portion of the face opposite said substantially planar surface.

35. The sealing element of claim 30, wherein said anterior prong is longer than said posterior prong so that a tip of the anterior prong extends beyond a tip of the posterior prong.

36. The sealing element of claim 30, wherein the distal end comprises at least one anterior prong and at least one posterior prong.

37. The sealing element of claim 36, wherein said anterior prong and said posterior prong are separated by at least one gap.

38. The sealing element of claim 37, wherein the gap separating the prongs runs approximately a third of the length of the sealing element.

39. The sealing element of claim 30, wherein said anterior prong includes a fin-like shape and said posterior prong includes a substantially planar shape in a longitudinal cross section of the sealing element.

40. The sealing element of claim 39, wherein said anterior prong is longer than said posterior prong so that a tip of the anterior prong extends beyond a tip of the posterior prong.

41. The sealing element of claim 30, wherein said substantially planar surface includes an orifice in fluid communication with a fluid sample holding chamber.

42. The sealing element of claim 41, wherein said device is a blood sample collection device such that the sliding movement of said sealing device seals the orifice, which holds a blood sample.

43. A fluid sample collection device with a bubble-free entry port, comprising:

a housing containing an orifice that is in fluid communication with a blood sample holding chamber which terminates at an internal capillary stop,

wherein the blood sample holding chamber is coated at least in part with a cocktail containing a compound selected from the group consisting of a water-soluble protein, a polymer containing hydroxyl groups, amino acid, sugar or salt, whereby individual drops of blood form a contiguous segment of blood in said holding chamber.

44. The device of claim 43, wherein the blood sample holding chamber is corona-treated.

45. The device of claim 43, wherein a fixed volume of sample is retained in said holding chamber in the range 1 uL to 1 mL.

46. The device of claim 43, wherein the volume of sample is 5-50 uL.

47. The device of claim 43, wherein the sample holding chamber is made of plastic.

48. The device of claim 43, wherein the cocktail comprises bovine serum albumin (BSA).

49. The device of claim 43, wherein the cocktail comprises BSA, glycine, a polyethylene glycol (PEG) and a sugar.

50. The device of claim 43, wherein the PEG is methoxypropylene glycol and the sugar is sucrose.

51. A method of blood collection in which individual drops of blood form a contiguous segment of blood in a holding chamber, comprising:

adding two or more drops of blood to a sample collection device comprising a housing and at least one substantially planar surface with an orifice that is in fluid communication with a blood sample holding chamber which terminates at an internal capillary stop,

wherein the blood sample holding chamber is coated at least in part with a cocktail containing a compound selected from the group consisting of a water-soluble protein, polymer containing hydroxyl groups, amino acid, sugar or salt, whereby blood is drawn from the orifice into the holding chamber by capillary force and said cocktail inhibits bubbles and provides a contiguous segment of blood in the holding chamber.

52. The method of claim 51, wherein the blood sample holding chamber is corona-treated.

53. The method of claim 51, wherein a fixed volume of sample is retained

in said holding chamber in the range 1 uL to 1 mL.

54. The method of claim 51, wherein the volume of sample is 5-50 uL.

55. The method of claim 51, wherein the sample holding chamber is made of plastic.

56. The method of claim 51, wherein the cocktail comprises bovine serum albumin (BSA).

57. The method of claim 51, wherein the cocktail comprises BSA, glycine, a polyethylene glycol (PEG) and a sugar.

58. The method of claim 51, wherein the PEG is methoxypropylene glycol and the sugar is sucrose.

59. A blood receiving device, comprising:

a conduit that is in part corona-treated and in part coated with a dry reagent mixture comprising at least a water-soluble protein and a polymer containing hydroxyl groups.

60. A dry reagent composition for dissolving into whole-blood prior to a whole-blood immunoassay comprising: goat IgG, mouse IgG, heparin, dextran, Tris buffer, proclin, and sodium chloride in a support matrix.

61. The reagent of claim 60, wherein the support matrix is cellulose, polyvinyl alcohol, gelatin, or mixtures thereof.

62. The reagent of claim 60, wherein where the reagent includes sodium azide and Tween 20.